gtatticata aaacagagag gatcgcagga ggccggcoct cigociccig giggaiggga ciagggagtc agagtcaagc ccigociggc igagggcggg cgciccgagi cagcATGGAA 120 AGICTETGGG GGGTCCTGGT ATTICTGCTG CTGGCTGCAG GACTGCCGCT CCAGGGGGCC AAGCGGTTCC GTGATGTGCT GGGCCATGAG CAGTAT<u>CCGG ATCACATGAG GGAGAACAAC</u> 210 360 OLRGUSS DEN EUDE OLY PUURRGE GAUKOS NEGGAUDA AL ACCAGIGATI CRCCGGCCII GGIGGGIICC ARIAICACCI ICGIAGIGAA CIGCAGGIGIIC CCCAGAIGCC AGAAGGAAGA IGCCAACGGC ARIAICGICI AIGAGAGGAA CIGCAGAAGA TS DS PRE UGS HITF UUH LUF PRE OK, EORHG HIUVERHERS GATTIGGAGC TGGCTTCTGA CCCGTATGTC TACAACTGGA CCACAGGGG CACGGGTGAG GACTGGGAAG ACRACACCAG CCAAGGCCCTGG GAAGCCCTTC DIELAS DPYUVHUITGA ODE DUEDNIS DISTORAGE GEGGGGG GEGGGGG GAGIICAG GAGIICIA IAAACAGG CAACIIGACA ECICECECCE RECORCEGAR GRANTEGRAC TICETETINE ILLICENCE HELIOUEND INTITERIN INCESSORIE CONTROL OF STATE U G P Q U N E U N U F R R H G R R Y N P N S K U K O U Y U N T O Q N P N F U T M Tricrgarga rigaccigar cicgicigai garacticc tcagagacci cccattitc itcgrigicc tcaticacga tcccagicat itcctarca acteigccat ticctacaag TEGARCTITE GEGACARCRE TEGECTETIT GICTECARCA ATCACRETIT GRATCACRCE TATETECTER RIGGRACCTI CARCTITARE CICACCETEC RRACTECARET GEORGEACCA H F G O N T G L F U S N N H T L N H T Y U L N G T F N T N L 1 U O T R U P G P TECCCCICAC CCACACCTIC GCCTICICI TCACCTICA CTICACCACA RICCATGAGA C P S P T P S P S S T S P S P R S S P S P T L S T P S P S L T P T G Y K S T E CTGAGTGACA TITICCAATGA AAACTGCCGA ATAAACAGAT ATGGTTACTT CAGAGCCACC ATCACAATTG TAGATGGAAT CCTAGAAGTC AACATCATCC AGGTAGCAGA TGTCCCAATC **A B 1** CCCACACIGC AGCCIGACAR CICACIGAIG GACTICATIG IGACCIGCAR AGGGGCCACI CCCACGGARG CCIGIRCGAI CAICICIGAC CCCACCIGCC AGATCGCCCA GAACAGGGIG PTLOPONS LIID FIUTCK GATPTEACTIIS OPTCOIAO HAU ICCAGCCCCG IGGCTGTGGG TGAGCTGCGC TGAGGAGGGC CITCAGTGGG TCCGGCGCG ACTGTGGAR TITCACTCTG GGAGACGATG CAAGCCTGGC CCTCACCAGC ACCETABLET CTRICCCIAG CHARGACCIA GECTECECTE TANGARCHAS CHARGAGETE CTRATECTECH ITEGETECT GECCHIGITI GTERCENIG TANCERTETT GETGTACAAN ARACACRAGA CGIACARGCE ARIAGGARAC IGCACCAGGA ACGIGGIGA GGGCARAGGC CTGRGIGITI IICTCAGCCA IGCARARGCC CCGITCICCC GAGGARGCG GGGARAGGG K K I Y K P I G H C I R H U U K G K G L S U F L S H A K A P F S R G O R E K O 1800 KHKI YKPIGH CIRH UUK GKG LSUFLSH AKA PFSA GOREKO CERETEGIETE REGERERECE AIGGALGETTE TANGET TO COLOR CO teloeggott attgloodot glataleolg gitlogggog iglagilaat iggeatilla gigaagggot gggoogaeag lattietieg edicigiati giggitilla taetgiloot agggtgggca cattgtgtct gaagggggag ggggaggtca ctgctactta aggtcctagg tlaactggga gaggatgccc caggctcctt agattlctac acoogatgtg cctgaaccca 2160 getagteelg occlaaagge calgelleat coacletale teagelealt gaacoloect gagegeelga tggaatlata alggaaceaa getigligla tggtgigig giglacolaa 2280 gotocicati accorgocag iciatiacco accoracco 2320

::

## FIGURE 1A

EXON	BAC Start	BAC Stop	cDNA Start	cDNA Stop	Exon Length			
1 2	83294 89834	83455 89986	1 163	162 314	162 152	poly A signal is position 111614-111619		
2 3	90696	90839	315	458	144	translation start (ATG) is:		
4	93419	93594	459	634	176	cDNA: 92		
5	96509	96665	635	791	157	Gene: 83385		
6	96983	97300	792	1109	318	20.00		
7	103044	103142	1110	1208	99			
8	104413	104515	1209	1311	103			
9	106494	106702	1312	1520	209			
10	110048	110141	1521	1614	94			
11	110592	111633	1615	2656	1042			
Dookanys								
- DAZDI	FIĞURE 1B							

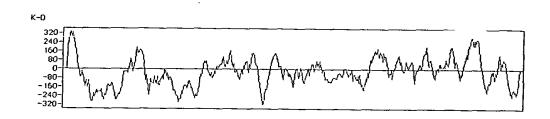


FIGURE 1C

rat mouse human	- 111 E <b>-</b> Ei.	TCTGCGGGG	r cctgggatt	T CTGCTGCTG	G CTGCAGGAC	F GCCGCTCCAC F GCCTCTCCAC F GCCACTTGAT	GCTGCCAAGC	GATTT	75 75 75
	CGTGATGTGC CGTGATGTGC CATGATGTGC	TGGGCCATG	A ACAGTATCC	C GATCACATG	A GAGAGCACA		GGCTGGTCTT	CGGAT	150 150 150
	GAAAATGAAT GAAAATGAAT GAAAATGACT	GGGATGAACA	CCTGTATCC	A GTGTGGAGG	A GGGGAGACGG		GACTCCTGGG	AAGGA	225 225 225
rat mouse human	GGCCGTGTGC	AGGCAGTCCT	GACCAGTGAG	TCACCGGCTC	TGGTGGGTTC	CAATATCACC CAATATCACT AAATATAACA	TTTGTGGTGA	ACCTG	300 300 300
rat mouse human	GTGTTCCCCA	GATGCCAGAA	GGAAGATGCT	AATGGCAATA	TCGTCTATGA	GAGGAACTGC GAAGAACTGC GAAGAACTGC	AGGAATGATT	TGGGA	375 375 375
rat mouse human	CTGACATCTG	ACCTGCATGT	CTACAACTGG	ACTGCAGGGG	CAGATGATGG	GGACTGGGAA TGACTGGGAA TGACGGGGAA	GATGGCACCA	GCCGA	450 450 450
Fat Mouse Muman	AGCCAGCATC	TCAGGTTCCC	GGACAGGAGG	CCCTTCCCTC	GCCCCCATGG	ACGGAAGAAA ATGGAAGAAA ATGGAGAAGA	TGGAGCTTTG	TCTAC	525 525 525
Mat Imbuse Buman	GTCTTTCACA	CACTTGGCCA	GTATTTCCAA	AAACTGGGTC	GGTGTTCAGC	ACGAGTTTCT ACGGGTTTCT GAGAGTTTCT	ATAAACACAG	TCAAC	600 600
human	TTGACAGCTG	GCCCTCAGGT	CATGGAAGTG	ACTGTCTTTC	GAAGATACGG	CCGGGCATAC CCGGGCATAC ACGGGCATAT	ATTCCCATCT	CGAAG	675 675 675
rat Mouse human	GTGAAAGATG	TGTATGTGAT	AACAGATCAG	ATCCCTGTAT	TCGTGACCAT	GTACCAGAAG GTCCCAGAAG GTTCCAGAAG	AATGACAGGA	ACTTG	750 750 750
House	TCTGATGAGA	TCTTCCTCAG	AGACCTCCCC	ATCGTCTTCG	ATGTCCTCAT	TCACGATCCC TCATGATCCC TCATGATCCT	AGCCACTTCC	TCAAC	825 825 825
rat mouse human	TACTCTGCCA GACTCTGCCA TATTCTACCA	TTTCCTACAA	GTGGAACTTT	${\sf GGGGACAACA}$	CTGGCCTGTT		AATCACACTT	TGAAT	900 900 900
rat mouse human	CACACGTATG CACACTTATG CACACGTATG	TGCTCAATGG	AACCTTCAAC	${\tt CTTAACCTCA}$	CCGTGCAAAC		GG- <b>-</b>	-GCCA	966 966 975
rat mouse human	-TGCC-CC-T -TGCC-CT CCGCCACCAC	CCCCC	TTCGCCTTCG	ACTCCGCCTT	CACCTTCAAC	GCCTGCA TCCGCCCTTA	CCTTCGCCCT	CACCT	1029 1032 1004
rat mouse human	TTGCCCACAT	TATCAACACC	TAGCCCCTCT	TTAATGCCTA	CTGGTTACAA	ATCCATGGAG	CTGAGTGACA	TTTCC	1101 1107 1059
mouse	AATGAAAACT ( AATGAAAACT ( GATGAAAACT (	GCCGAATAAA	CAGATATGGC	TACTTCAGAG	CCACCATCAC	AATTGTAGAG	GGGATCCTGG	AAGTC	1176 1182 1134

rat	ስ እ <del>ር እ ምር እ ምር</del> ር								
mouse	AACATCATCC	AGGTAGCAGA	TGTCCCAATC	CCCACACTG	C AGCCTGACAA	CTCACTGATG	GACTTCATTG	TGACC	1251
human	AGCATCATGC	AGATAGCAGA	COMCOMON	CCCACACCG	C AGCCTGCCAA	CTCCCTGATG	GACTTCACTG	TGACC	1257
numan	AACATCATCC	AGATGACAGA	CGTCCTGATG	CCGGTGCCA	r ggcctgaaag	CTCCCTAATA	GACTTTGTCG	TGACC	1209
rat	TCCA A ACCCC	CCRCCCCAC		100100100					
mouse	TOCAMAGGGG	CCACTCCCAC	GGAAGCCTGT	ACGATCATC	T CTGACCCCAC	CTGCCAGATC	GCCCAGAACA	GGGTG	1326
	TGCAAAGGGG	CCACCCCAT	GGAAGCCTGT	ACGATCATC	CCGACCCCAC	CTGCCAGATC	GCCCAGAACC	GGGTC	1332
human	TGCCAAGGGA	GCATTCCCAC	GGAGGTCTGT	ACCATCATT	r ctgaccccac	CTGCGAGATC	ACCCAGAACA	CAGTC	1284
ra+	TCCACCCCC	mcccmcmcc.	mccomomoo						
rat	TGCAGCCCGG	TGGCTGTGGA	TGAGCTGTGC	CTCCTGTCCC	G TGAGGAGAGC	CTTCAATGGG	TCCGGCACGT	ACTGT	1401
mouse	TGCAGCCCTG	TGGCTGTGGA	TGGGCTGTGC	CTGCTGTCTC	TGAGAAGAGC	CTTCAATGGG	TCTGGCACCT	ACTGT	1407
human	TGCAGCCCTG	TGGATGTGGA	TGAGATGTGT	CTGCTGACTC	TGAGACGAAC	CTTCAATGGG	TCTGGGACGT	ACTGT	1359
rat	GTGAATTTCA	CTCTGGGAGA	CGATGCAAGC	CTGGCCCTCA	CCAGCGCCCT	GATCTCTATC	CCTGGCAAAG	ACCTA	1476
mouse	GTGAATTTCA	CTCTGGGAGA	TGATGCAAGC	CTGGCCCTCA	CCAGCACCCT	GATCTCTATC	CCTGGCAAAG	ACCCA	1482
human	GTGAACCTCA	CCCTGGGGGA	TGACACAAGC	CTGGCTCTCA	CGAGCACCCT	GATTTCTGTT	CCTGACAGAG	ACCCA	1434
- Tat									
	GGCTCCCCTC	TGAGAACAGT	GAATGGTGTC	CTGATCTCCA	TTGGCTGCCT	GGCCATGTTT	GTCACCATGG	TTACC	1551
i∰nouse	GACTCCCCTC	TGAGAGCAGT	GAATGGTGTC	CTGATCTCCA	TCGGCTGCCT	GGCTGTGCTT	GTCACCATGG	TTACC	1557
i∏numan	GCCTCGCCTT	TAAGGATGGC	AAACAGTGCC	CTGATCTCCG	TTGGCTGCTT	GGCCATATTT	GTCACTGTGA	TCTCC	1509
rat									
rat	ATCTTGCTGT	ACAAAAAACA	CAAGACGTAC	<b>AAGCCAATAG</b>	GAAACTGCAC	CAGGAACGTG	GTCAAGGGCA	AAGGC	1626
-mouse	ATCTTGCTGT	ACAAAAAACA	CAAGGCGTAC	<b>AAGCCAATAG</b>	GAAACTGCCC	CAGGAACACG	GTCAAGGGCA	AGGGC	1632
(Efiund I)	CTCTTGGTGT	ACAAAAAACA	CAAGGAATAC	AACCCAATAG	AAAATAGTCC	TGGGAATGTG	GTCAGAAGCA	AAGGC	1584
<sup>1</sup> 4.]									100.
Frat Mouse	CTGAGTGTTT	TTCTCAGCCA	TGCAAAAGCC	CCGTTCTCCC	GAGGAGACCG	GGAGAAGGAT	CCACTGCTCC	AGGAC	1701
<sup>re</sup> mouse	CTGAGTGTTC	TCCTCAGTCA	CGCGAAAGCC	CCGTTCTTCC	GAGGAGACCA	GGAGAAGGAT	CCATTGCTCC	AGGAC	1707
<sup>!!</sup> human	CTGAGTGTCT	TTCTCAACCG	TGCAAAAGCC	GTGTTCTTCC	CGGGAAACCA	GGAAAAGGAT	CCGCTACTC-	AA	1655
							0000111010	701	1033
<b>f</b> at	AAGCCATGGA	TGCTCTAA		- 1719	9				
L TROUS &	AAGCCAAGGA	CACTCTAA		- 1729	5				
human	AAACCAAGAA	TTTAAAG	GAGTTTCTTA		-				
					<del>,</del>				
۵									

FIGURE 2A, cont'd.

rat					E NNQLRGWSSD	50
					E HNQLRGWSSD	50
human	MECLYYFLG	f LLLAARLPLI	O AAKRFHDVL	G NERPSAYMRE	HNQLNGWSSD	50
rat	ENEWDEQLYI	P VWRRGEGRWE	C DSWEGGRVO	A ALTSDSPALV	GSNITFVVNL	100
mouse					GSNITFVVNL	100
					GSNITFAVNL	100
rat					DEDWEDNTSQ	150
					DGDWEDGTSR	150
human	I FPRCQKEDA	NGNIVYEKNO	RNEAGLSADE	P YVYNWTAWSE	DSDGENGTGQ	150
rat	GQHLRFPDGK	PEPRPHGRKK	WNFVYVFHTI	GQYFQKLGQC	SARVSINTVN	200
mouse				GQYFQKLGRC		200
				GQYFQKLGRC		200
rat				VITDQIPIFV		250
				VITDQIPVFV		250
human	VTLGPQLMEV	TVYRRHGRAY	VPIAQVKDVY	VVTDQIPVFV	TMFQKNDRNS	250
rat	SDETFLRDLP	IFFDVLIHDP	SHFLNYSAIS	YKWNFGDNTG	LFVSNNHTLN	300
mouse				YKWNFGDNTG		300
				YKWSFGDNTG		300
rat	HTYVLNGTFN	FNLTVQTAVP	GPCPSPTPS-	-PSSSTSPSP	ASSPSPTLST	348
				PPSPSTPPLP		350
human	HTYVLNGTFS	LNLTVKAAAP	GPCPPPPP	PPRP	SK	334
rat	PSPSLMPTGY	KSMELSDISN	ENCRINRYGY	FRATITIVDG	ILEVNIIQVA	398
mouse	PSPSLMPTGY	KSMELSDISN	ENCRINRYGY	FRATITIVEG	ILEVSIMQIA	400
human	PTPSLGPAGD	NPLELSRIPD	ENCQINRYGH	FQATITIVEG	ILEVNIIQMT	384
rat	DVPIPTLQPD	NSLMDFIVTC	KGATPTEACT	IISDPTCQIA	ONRVCSPVAV	448
		NSLMDFTVTC				450
human	DVLMPVPWPE	SSLIDFVVTC	QGSIPTEVCT	IISDPTCEIT	QNTVCSPVDV	434
rat	DELCLLSVRR	AFNGSGTYCV	NFTLGDDASL	ALTSALISIP	GKDLGSPLRT	498
				ALTSTLISIP		500
human	DEMCLLTVRR	TFNGSGTYCV	NLTLGDDTSL	ALTSTLISVP	DRDPASPLRM	484
rat	VNGVLISIGC	LAMFVTMVTI	LLYKKHKTYK	PIGNCTRNVV	KGKGLSVFLS	548
				PIGNCPRNTV		550
human .	ANSALISVGC	LAIFVTVISL	LVYKKHKEYN	PIENSPGNVV	RSKGLSVFLN	534
rat i	HAKAPFSRGD	REKDPLLQDK	PWML 572			
		QEKDPLLQDK				
		QEKDPLLKNQ				
		- <del>-</del>				

## FIGURE 2B

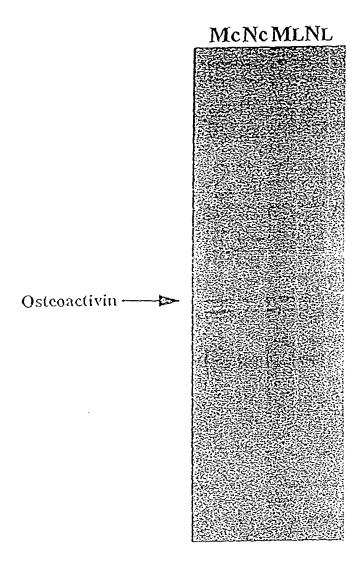


FIGURE 3

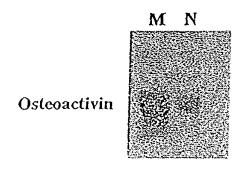


FIGURE 4A

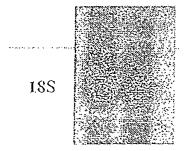


FIGURE 4B

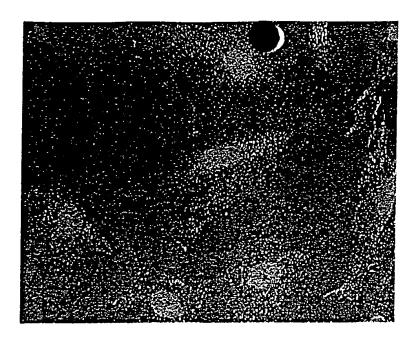
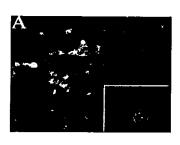
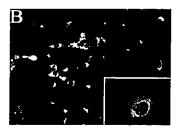


FIGURE 5





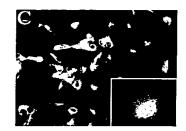


Figure 5A

Figure 5B

Figure 5C

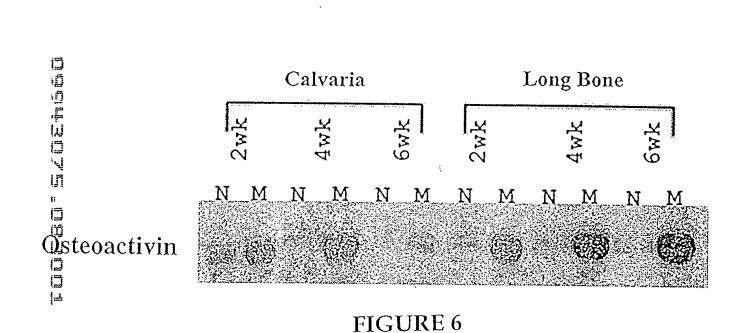


FIGURE 6

## FIGURE 7A

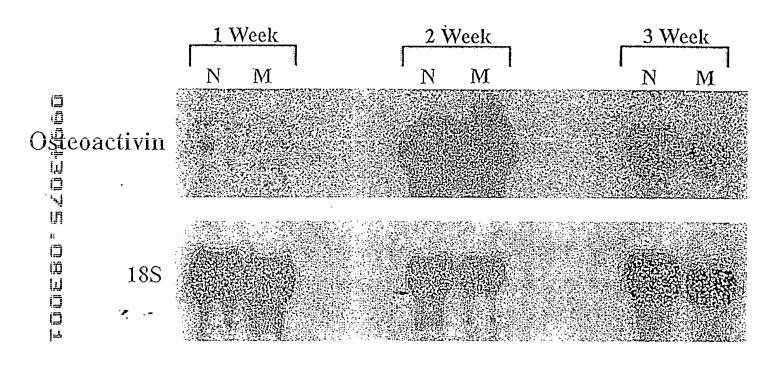


FIGURE 7B

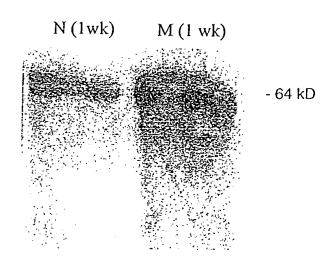


FIGURE 8

FIGURE 9

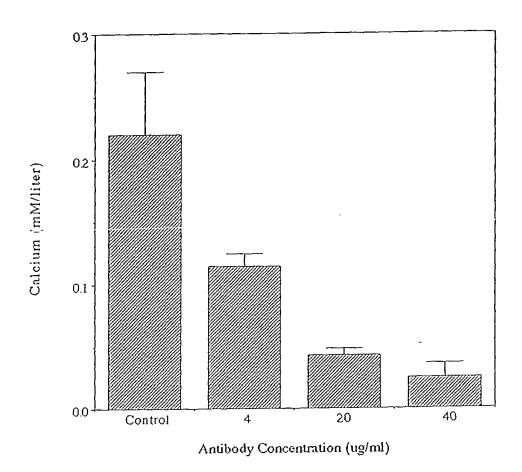


FIGURE 10